

## JUNAGADH AGRICULTURAL UNIVERSITY, JUNAGADH

### B. Pulses crops

Sr. No.	Variety/ Hybrid
<b>5.</b>	<b>Chickpea</b>
	<b>5.1</b> Gujarat Junagadh Gram 3 (GJG 3)
	<b>5.2</b> Gujarat Gram 5* (GG 5)
	<b>5.3</b> Gujarat Junagadh Gram 6 (GJG 6)
<b>6.</b>	<b>Pigeon pea</b>
	<b>6.1</b> Gujarat Junagadh Pigeonpea 1 (GJP 1)

\* Released for National level and Gujarat State also

### 5. Chickpea

#### 5.1 Gujarat Junagadh Gram 3 (GJG 3)

1	Name of crop	Chickpea
2	Botanical name	<i>Cicer arietinum</i> L.
3	Name of variety	Gujarat Junagadh Gram 3 (GJG 3)
4	Parentage with details of its pedigree	ICCV 93001 x ICCV 10 (ICCV 940205-J-1-3-1-1)
5	Breeding method	Hybridization followed by pedigree method of selection.
6	Year of release	2007-08
7	Gazette notification	S.O. 2137 (E) Date: 31.08.2010
8	Acknowledge particulars about the submission of germplasm samples with NBPGR	GG 3 (GJG 0207) IC: 573501
9	Potential yield (kg/ha)	2625
10	Average yield (kg/ha)	1535
11	Recommended regions/areas of adoption	Rainfed areas of Bhal and Coastal Zone. This variety suitable for cultivation under rainfed condition in <i>Rabi</i> season.
12	Characteristics/Distinguishing morphological in brief:	
	• Plant height (cm)	35.65
	• Plant growth habit	Semi-erect
	• Plant green colour intensity of foliage	Medium
	• No. of primary branches	4
	• No. of secondary branches	12
	• 100 seed weight (g)	22.77
	• Leaf character	Compound
	• Leaf size and shape	Medium and Lanceolate
	• Leaf colour	Green
	• Leaf pubescent/glabrous	Pubescent
	• Time of flowering	Early
	• Flower colour	Pink
	• Number of flower per peduncle	Single
	• Flower strips on standard	Present
	• Flower pattern	Indeterminate
	• Pod size	Large
	• Pod colour	Greamy at maturity
	• Pod hairiness	Hairy

•	Pod surface	Rough
•	Pod per plant	34.13
•	Number of seeds per pod	1.66
•	Seed colour	Yellow
•	Seed shape and size	Owls head and Large
•	Seed testa texture	Tuberculated
•	Seed ribbing	Absent
•	Seed type	Desi
13	Agronomical Practices	Time of sowing: 2 <sup>nd</sup> fortnight of October Sowing distance: 30 x 10 cm. Seed rate: 60 kg/ha. Fertilizer: N:P:K 20:40:00 kg/ha.
14	Specific attributes/Describe at least two identifiable characteristics of the variety	Attractive yellow colour of seed with tuberculated surface, large seed size (22.77 g/100) and high carbohydrate (64.02 %).
15	Quality / Nutritional / Other features	Protein content (%) : 22.76 Total carbohydrates (%) : 64.02 Total Soluble Sugar (%) : 10.51 Phenol (%) : 0.60 Initial Moisture Content (%) : 10.01 Actual Dal (%) : 88.12 Cooking Time in Minutes : 26
16	Diseases and pests resistance (give details of any resistance to pest or diseases including races)	Moderately resistant to wilt and stunt diseases and tolerant to <i>Helicoverpa armigera</i> infestation.
17	Duration/ Maturity group	98 days/Early maturity group
18	Originating source/ Institute	Pulses Research Station, Junagadh Agricultural University, Junagadh-362 001 (Gujarat)



### 5.1 Gujarat Gram 5 (GG 5)

1	Name of crop	Chickpea
2	Botanical name	<i>Cicer arietinum</i> L.
3	Name of variety	Gujarat Gram 5 (GG 5)
4	Parentage with details of its pedigree	GJG 9707 x IPC 97-7 (JND 2001-02-02-01-05-01-5B)
5	Breeding method	Hybridization followed by pedigree method of selection.
6	Year of release	2013-14
7	Gazette notification	S. O. 1007 (E) Date: 30.03.2017
8	Acknowledge particulars about the submission of germplasm samples with NBPGR	GG 5 (GJG 0809) IC:598345
9	Potential yield (kg/ha)	3392
10	Average yield (kg/ha)	2510
11	Recommended regions/areas of adoption	Jammu and Kashmir, Himachal Pradesh, Uttarakhand and North Eastern Hill region of India. & Irrigated

		condition of Gujarat.
12	Characteristics/Distinguishing morphological in brief:	
	• Plant height (cm)	50.00
	• Plant growth habit	Semi-erect
	• Plant green colour intensity of foliage	Medium Green
	• 100 seed weight (g)	21.37
	• Initial Moisture Content (%)	9.76
	• Actual Dal (%)	86.90
	• Actual Husk (%)	13.10
	• Cooking Time in Minutes	30.0
	• Leaf character	Compound
	• Leaf size and shape	Medium and Lanceolate
	• Leaf colour	Green
	• Leaf pubescent/glabrous	Pubescent
	• Time of flowering	Early
	• Flower colour	Pink
	• Number of flower per peduncle	Single
	• Flower strips on standard	Present
	• Flower pattern	Indeterminate
	• Pod size	Medium
	• Pod colour	Green
	• Pod hairiness	Hairy
	• Pod surface	Rough
	• Pod per plant	65
	• Number of seeds per pod	1.46
	• Seed colour	Brown
	• Seed shape	Angular
	• Seed testa texture	Tuberculated
	• Seed ribbing	Present
	• Seed type	Desi
13	Agronomical Practices	Time of sowing: 1 <sup>st</sup> fortnight of November Sowing distance: 45 x 10 cm. Seed rate: 60 kg/ha. Fertilizer: N:P:K 20:40:00 kg/ha. Irrigation: 4-5
14	Specific attributes/Describe at least two identifiable characteristics of the variety	Attractive brown colored medium sized seed. Medium green colour of foliage.
15	Quality / Nutritional / Other features	Protein content (%) : 22.31 Total carbohydrates (%) : 58.40 TSS (%) : 6.50 Phenol (%) : 0.24
16	Diseases and pests resistance (give details of any resistance to pest or diseases including races)	Moderately resistant to wilt, <i>Ascochyta</i> blight, stunt, root rot & BGM diseases. Low <i>Helicoverpa armigera</i> infestation.
17	Duration/ Maturity group	103 days (Early maturity group)
18	Originating source/ Institute	Pulses Research Station, Junagadh Agricultural University, Junagadh-362 001 (Gujarat)



### 5.3 Gujarat Junagadh Gram 6 (GJG 6)

1	Name of crop	Chickpea
2	Botanical name	<i>Cicer arietinum</i> L.
3	Name of variety	Gujarat Junagadh Gram 6 (GJG 6)
4	Parentage with details of its pedigree	GJG 0105 x FC 711 (JND 2002-01-01-05-02-01-SB)
5	Breeding method	Hybridization followed by pedigree method of selection.
6	Year of release	2014-15
7	Gazette notification	S.O. 3540 (E), Date: 22.11.2016
8	Acknowledge particulars about the submission of germplasm samples with NBPGR	GJG 6 (GJG 1003) IC:615013
9	Potential yield (kg/ha)	2722
10	Average yield (kg/ha)	1867
11	Recommended regions/areas of adoption	The variety is suitable for cultivation under rainfed (Conserved soil moisture condition) in <i>Rabi</i> season.
12	Characteristics/Distinguishing morphological in brief:	
	• Plant height (cm)	47.00
	• Plant growth habit	Semi-erect
	• Plant green colour intensity of foliage	Medium Green
	• 100 seed weight (g)	22.45
	• Pod per plant	36
	• Number of seeds per pod	1.50
	• Leaf character	Compound
	• Leaf size and shape	Medium and Lanceolate
	• Leaf colour	Green
	• Leaf pubescent/glabrous	Pubescent
	• Time of flowering	Medium
	• Flower colour	Pink
	• Number of flower per peduncle	Single
	• Flower strips on standard	Present
	• Flower pattern	Indeterminate
	• Pod size	Medium
	• Pod colour	Green
	• Pod hairiness	Hairy
	• Pod surface	Rough
	• Seed colour	Dark Brown
	• Seed shape	Angular
	• Seed testa texture	Tuberculated
	• Seed ribbing	Present
	• Seed type	Desi

13	Agronomical Practices	Time of sowing: 2 <sup>nd</sup> fortnight of October Sowing distance: 30 x 10 cm. Seed rate: 60 kg/ha. Fertilizer: N:P:K 20:40:00 kg/ha.
14	Specific attributes/Describe at least two identifiable characteristics of the variety	Attractive dark brown colour seed with tuberculated seed testa texture (Surface) and angular seed shape with medium seed size.
15	Quality / Nutritional / Other features	Protein content (%) : 19.90 Total carbohydrates (%) : 67.84 Total soluble sugar (%) : 5.44 Phenol (%) : 0.24 Initial Moisture Content (%) : 9.83 Actual Dal (%) : 87.72 Cooking Time in Minutes : 27.0
16	Diseases and pests resistance (give details of any resistance to pest or diseases including races)	Resistant against wilt and stunt diseases. Low <i>Helicoverpa armigera</i> infestation
17	Duration/ Maturity group	112 days/Medium maturity group
18	Originating source/ Institute	Pulses Research Station, Junagadh Agricultural University, Junagadh-362 001 (Gujarat)



## 6. Pigeonpea

### 6.1 Gujarat Junagadh Pigeonpea 1 (GJP 1)

1	Name of crop	Pigeonpea
2	Botanical name	<i>Cajanus cajan</i> L. Millsp
3	Name of variety	Gujarat Junagadh Pigeonpea 1 (GJP 1)
4	Parentage with details of its pedigree	LRG 41 x BDN 2 (JP-2002-07-10-01-02-01-01-B)
5	Breeding method	Hybridization followed by pedigree method of selection.
6	Year of release	2014-15
7	Gazette notification	S. O. 2238 (E) & Date: 29.06.2016
8	Acknowledge particulars about the submission of germplasm samples with NBPGR	GJP 1 (GJP 0901) IC: 599727
9	Potential yield (kg/ha)	4306
10	Average yield (kg/ha)	2115
11	Recommended regions/areas of adoption	The variety is suitable for cultivation in <i>kharif</i> season in Saurashtra region of Gujarat State.
12	Characteristics/Distinguishing morphological in brief:	
	• Plant height (cm)	168.1
	• Plant growth habit	Indeterminate
	• Branches/plant	10.6
	• Pod per plant	220.5
	• Number of seeds per pod	4
	• Days to 50 % flowering	Medium (123)

•	Initial Moisture Content (%)	11.74
•	Actual Dal (%)	86.97
•	Actual Husk (%)	13.03
•	Cooking Time in Minutes	21.0
•	Protein content (%)	19.51
•	Stem anthocyanin colour	Absent
•	Leaf shape	Sesame
•	Leaf pubescent	Present
•	Leaflet size	Medium
•	Leaf tip	Pointed
•	Base colour of petal	Yellow
•	Patter of streaks on petal	Absent
•	Pod size	Medium
•	Pod colour	Green with purple streaks
•	Pod Pubescence	Absent
•	Pod Waxiness	Absent
•	Pod Stickiness	Present
•	Pod Constriction	Prominent
•	Seed colour	White
•	Seed eye colour	Light Brown
•	Seed shape	Oval
•	Seed colour pattern	Mottled
•	Seed size (g/100 seeds)	Extra-large (11.7)
13	Agronomical Practices	<ul style="list-style-type: none"> <li>• Time of sowing: <ul style="list-style-type: none"> <li>➤ First fortnight of June (Sole crop)</li> <li>➤ First week of August (Relay crop in Groundnut)</li> </ul> </li> <li>• Sowing distance: 90 x 20 cm.</li> <li>• Seed rate: 20 kg/ha.</li> <li>• Fertilizer: N:P:K 25:50:00 kg/ha.</li> <li>• Irrigation: 2-3 after cessation of monsoon</li> </ul>
14	Specific attributes/Describe at least two identifiable characteristics of the variety	Attractive white seed colour. Light green foliage. Bold seed size.
15	Quality / Nutritional / Other features	<ul style="list-style-type: none"> <li>• Milling Dal (%) : 74.58</li> <li>• Protein content (%) : 19.51</li> <li>• Actual Dal (%) : 86.97</li> <li>• Cooking time Min. : 21.0</li> </ul>
16	Diseases and pests resistance (give details of any resistance to pest or diseases including races)	The variety moderately resistant against wilt and SMD.
17	Duration/ Maturity group	176 days/Medium maturity group
18	Originating source/ Institute	Pulses Research Station, Junagadh Agricultural University, Junagadh-362 001 (Gujarat)

